

Work Order ID 72373

Monday, July 25, 2011 9:12:14 AM



Page 1

Item ID: D350-636-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube LH

Start Date: 7/25/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 8/2/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

H

Date: 11-07-25

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2750

F

D3492

C

100

0.00



DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy blue file and type labels per PPP D350-636-011 CHG 006

Subs

11-8-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1- Pick D2600-3 Bent								
	2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750								
	3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.								
	4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting								
	5- Drill only two fwd step holes using DT9616. Ensure proper positioning.								
	6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)								
	7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***								
	8-Open up holes for Detail B to 0.375" (4 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open up holes for ground handling and detail C to 0.500" (8 holes per side)								
	9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".								
	10-Open up holes of Detail A to 0.297" (total of 2 holes per side)								

BB 11/07/29

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Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004

A/R Aluminum Rod batch: ☐ M115778

BE 11/08/02

12-Grind welds flush as per Dwg D2750

BE 11/08/02

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

8 uloslor

Memo

0.00

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

5 uloslor

Memo

0.00

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

①

B 11/02/02

150

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1

0

BEN/08/02

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Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐ ☐ ☐ Sikaflex-291

batch: 117516 ☐ ☐ ☐

exp. date: 12/01/15

DR 11/08/02

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R ☐ ☐ ☐ Aluminum Rod

batch: 7115778

DR 11/08/03

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

DR 11/08/04

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D2750

12-Deburr holes

} Dtl. 11/08/04

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

Sullos

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Sullos

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

IX ~~Ø~~ M/K 11/08/09

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

11118344

Memo

0.00

Powder Coating

START TIME: 7:30AM
OVEN TEMPERATURE: 320°C
FINISH TIME: 8:00AM

1 ~~Ø~~ JH 11/08/10

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

IX ~~Ø~~ M/K 11/08/10

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Customer:

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1- Install inserts as per Dwg D2750

1 4/28/16

230

0.00



HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: 11/14

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: 1117316

EXP DATE: 15/6

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 1114189

5-Coat all exposed fasteners with "LPS Procyon" batch: 1114189

1 4/28/16

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8 ulos/17

20

Quality Control

250

Pick Kit

0.00



Packaging

Memo

0.00

11/8/17

Packaging

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

8 ulos/12

20

Quality Control

*****ensure antiseize is on AN8C21A bolts*****

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
	Packaging	0.00							
Packaging	Memo								
Packaging	Package as per PPP D350-636-011								
280		0.00							
	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

11/8/11

11/8/11

11-08-11

W/O:		WORK ORDER CHANGES					
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12

[illegible][illegible]

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty ' Issued	Date Issued	Status
D3492-1		Manufactured	No			230	Each	52.0000	8	8			
Plug													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FP		52		B71836		x8			
				69531		8							
				69819		44							
D3492-3		Manufactured	No			230	Each	52.0000	8	8			
Plug													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FP		52		B72126		x8			
				69822		12							
				70692		40							

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased No

230 Each

118.0000 8

8



u 1108116

O-RING

Location

Loc Qty

Loc Code

FP

40

117460

8

118077

32

FP-A

78

110915

75

115589

3

x 2

AN960JD816

NAJ1149008631

Purchased No

250 Each

0.0000 2

2



M118078

1/2" washer, Alum

D2744

Manufactured No

110 Each

34.0000 1

1



BE 11/08/02

Cap

Location

Loc Qty

Loc Code

LG002

34

62715

1

65086

1

70881

32

1

D2600-3-BENT

Manufactured No

110 Each

13.0000 1

1



1

Extrusion Bent

Location

Loc Qty

Loc Code

LG

13

66875

8

70142

5

72153

NOT IN SYSTEM

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Shop Packet Print

Page 2

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Parent Item Name: Skidtube LH



Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

160 Each

304.0000 8 8



Crossbolt Spacer



BE 11/08/03

Location

Loc Qty

Loc Code

LG

246

69818

81

71839

165

LG001

58

67766

4

68251

54

D2739

Manufactured No

160 Each

17.0000 1 1



350 I Beam



Wh
n/08/02.

Location

Loc Qty

Loc Code

LG

17

69886

1

70823

16

D3490-3

Manufactured No

160 Each

65.0000 4 4



Cross Bolt Spacer



BE 4/09/03

Location

Loc Qty

Loc Code

LG

65

68952

6

70768

59

4

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Shop Packet Print

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Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

D3490-1

Manufactured No

160

Each

150.0000

4

4



Cross Bolt Spacer



BE11/08/03

Location

Loc Qty

Loc Code

LG

148

67773

5

69510

18

69823

60

71841

65

LG001

2

62450

2

ALS4-1032-225

Purchased

No

220

Each

973.0000

38

38



Insert



HL 1108116

Location

Loc Qty

Loc Code

ST282

973

110768

104

117717

9

118386

860

MM1529

✓38

D3793-3

Manufactured

No

230

Each

17.0000

1

1



Wearshoe



HL 1108116

Location

Loc Qty

Loc Code

FP018

17

69283

5

70813

12

✓1

W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 5

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

AN8C35A

Purchased

No

230

Each

139.0000

1

1



BOLT



all 11/08/12

Location

Loc Qty

Loc Code

FP

103

117511

37

118286

66

FP-A

1

115960

1

ST345

34

117834

34

ST346

1

114442

0

115188

0

115960

1

D3793-1

Manufactured

No

230

Each

23.0000

1

1



Wearshoe



all 11/08/12

Location

Loc Qty

Loc Code

FP018

23

69285

5

70781

18

D3488-041

Manufactured

No

230

Each

16.0000

1

1



Blade Fitting Assembly, LH



all 11/08/12

Location

Loc Qty

Loc Code

FG008

11

69903

11

FP007

1

61689

1

FP008

4

67788

4

all

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Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:20 AM

Page 6

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

D3794-3

Manufactured No

230

Each

20.0000

1

1



Gasket



xl 1108116

Location

Loc Qty

Loc Code

FP010

8

68357

8

xl

FP018

12

70812

12

AN6C44A

Purchased

No

230

Each

143.0000

4

4



BOLT



xl 1108116

Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

141

117950

41

xl

118112

2

118332

48

118387

50

MS21083C8

Purchased

No

230

Each

95.0000

1

1



NUT



xl 1108116

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

50

118077

50

ST303

44

115884

0

117423

13

xl

117677

1

118354

30

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Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:21 AM

Page 7

Work Order ID: 72373

Parent Item: D350-636-011



Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011



Start Qty: 1.00

Required Qty: 1.00

D3536-25	Manufactured	No	230	Each	28.0000	1	1
							<u>xl 4/08/16</u>
Gasket							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP012	28	
68351	2	
<u>70780</u>	26	

D3631-1	Manufactured	No	230	Each	307.0000	8	8
							<u>xl 4/08/16</u>
Washer							



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST072	307	
<u>68062</u>	307	

D3791-1	Manufactured	No	230	Each	5.0000	1	1
							<u>xl 4/08/16</u>
Wearplate							

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

FP017	5	369282
62239	2	
69744	3	

AN960C10L	<u>NAS1149C0332</u> <u>R</u>	Purchased	No	230	Each	0.0000	38	38
							<u>(x38) xl 4/08/16</u>	
washer								

11110306

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:21 AM

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230 Each

365.0000 8 8



Bushing



all 11/08/16

Location

Loc Qty

Loc Code

FP-A

203

69529

155

69816

48

x 6

ST023

162

71835

162

AN3C5A

Purchased No

230 Each

1,039.000 34 34



Bolt



all 11/08/16

Location

Loc Qty

Loc Code

FP-A

7

115835

7

ST350

1032

116419

28

116549

42

117343

500

117764

300

x 34

117872

162

D3537-1

Manufactured No

230 Each

7.0000 3 3



Wearpad



all 11/08/16

Location

Loc Qty

Loc Code

FP017

7

69817

5

70686

2

071574

v 3

AN960C816L

NAS1149C0832

Purchased No

230 Each

0.0000 1 1



WASHER



M 11/4915

(x1) all 11/28/16

Monday, July 25, 2011 9:12:21 AM

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:21 AM

Page 9

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

356.0000

4

4



BOLT



u 4/08/11

Location

Loc Qty

Loc Code

FP-A

1

111982

1

ST351

355

111982

2

116419

23

116549

2

116704

12

117619

22

117688

44

117872

50

118422

200

v4

NAS1611-013

Purchased

No

230

Each

296.0000

8

8



O-RING



u 4/08/11

Location

Loc Qty

Loc Code

FP

91

117291

2

117887

89

FP-A

205

116582

5

118384

200

v8

D3535-25

Manufactured

No

230

Each

26.0000

1

1



Wearshoe



u 4/08/11

Location

Loc Qty

Loc Code

FP018

26

62233

1

69743

25

y1

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:21 AM

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

D3794-1

Manufactured No

230 Each

27.0000

1

1



Gasket



11/08/11

Location

Loc Qty

Loc Code

FP010

27

68355

3

70779

24

MS21043-6

Purchased No

230 Each

605.0000

4

4



11/08/11

NUT

Location

Loc Qty

Loc Code

FG

20

103693

20

ST301

585

112314

375

117887

10

118384

200

D3493-1

Manufactured No

250 Each

63.0000

2

2



11/08/11

Washer

Location

Loc Qty

Loc Code

ST062

63

68253

3

70697

60

2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr.	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:21 AM

Page 11

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH



Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

250

Each

95.0000

2

2



NUT

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

50

118077

50

ST303

44

115884

0

117423

13

117677

1

118354

30

AN8C21A

Purchased

No

250

Each

79.0000

2

2



BOLT

Location

Loc Qty

Loc Code

ST344

25

117764

25

ST345

54

117562

4

118045

50

NAS1515H3L

Purchased

No

230

Each

164.0000

8



WASHER

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

124

113362

124

Monday, July 25, 2011 9:12:21 AM

Shop Packet Print

Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 25, 2011 9:12:21 AM

Page 12

Work Order ID: 72373

Parent Item: D350-636-011

Parent Item Name: Skidtube LH

Start Date: 7/25/2011

Required Date: 8/2/2011

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

250 Each

22.0000

1

1



Blade, 350 Skidtube



Handwritten: 11/10/17

Handwritten: 5

Location

Loc Qty

Loc Code

ST466

22

69133

22

Manufactured No

250 Each

31.0000

2

D3532-1



Spacer



Handwritten: 11/10/17

Handwritten: 5

Location

Loc Qty

Loc Code

ST065

31

69895

31

Handwritten: 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

5

4

3

2

1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 72373

11-07-25

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS, ADD D3631-1; REMOVE QTY (38) NAS1515H3L, REMOVE QTY (10) NAS1515H8L, REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEC 9139/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-15A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PC		
DRAWN	PC		
CHECKED	PC		
MFG. APPR.	PC		
APPROVED	PC		
DE APPR.	PC		
DATE	08.07.16		
DART AEROSPACE USA, INC. PORT HADLOCK, WA			
DRAWING NO. D2750		REV. F SHEET 1 OF 11	
TITLE 350 SKIDTUBE ASSEMBLY		SCALE NTS	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

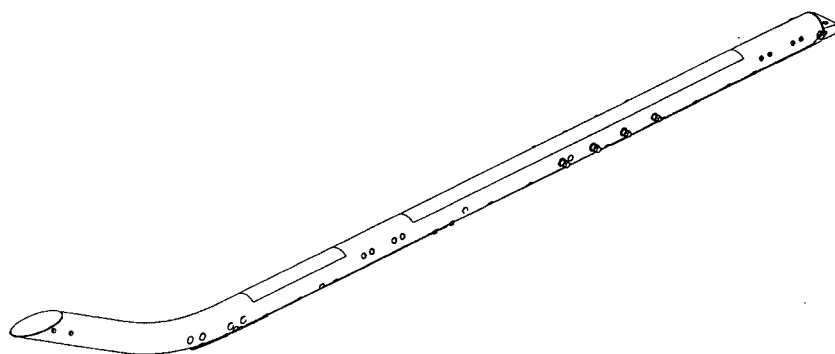
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

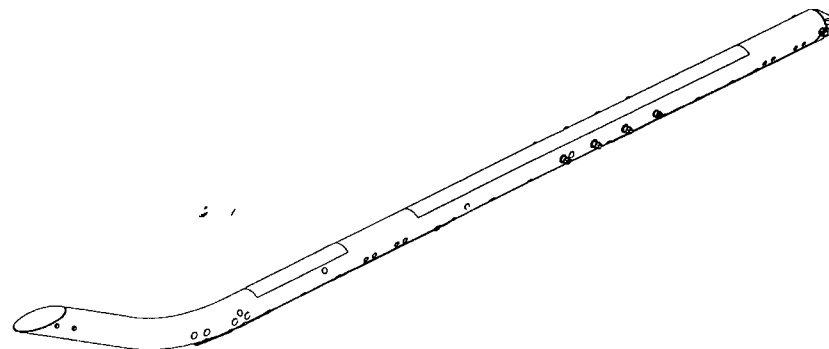
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

72373



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
08-09-22-14

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	RM	PORT HADLOCK, WA	
CHECKED	SA	DRAWING NO.	REV. F
MFG. APPR.	SA	D2750	SHEET 2 OF 11
APPROVED	SA	TITLE	SCALE
DE APPR.	SA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC.</small> <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE, OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

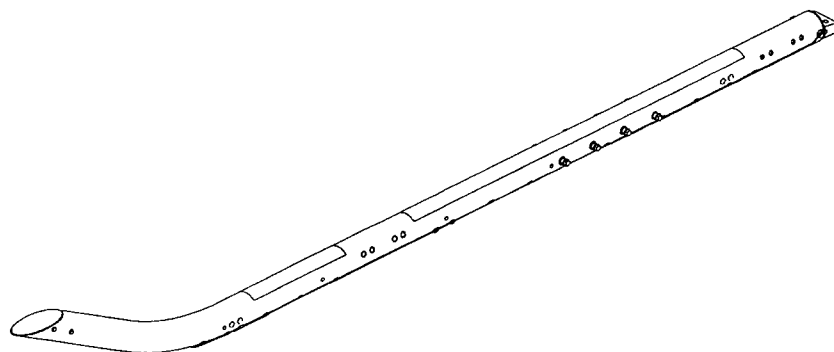
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

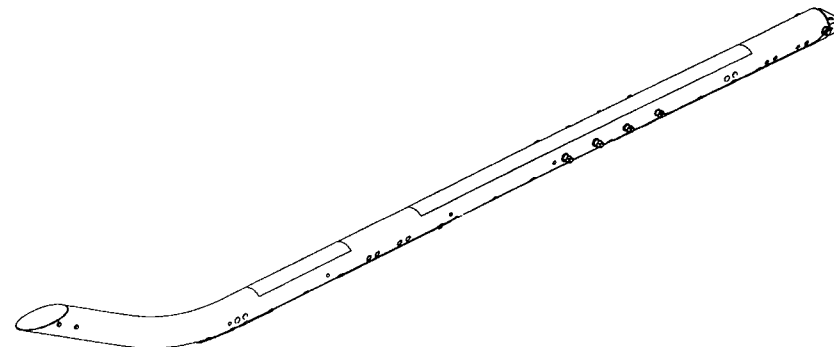
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

72373



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
68-9-22/100

DESIGN	PD	DART AEROSPACE USA, INC.	
DRAWN	PD	PORT HADLOCK, WA	
CHECKED	MA	DRAWING NO.	REV. F
MFG. APPR.	MA	D2750	SHEET 3 OF 11
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMBINED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

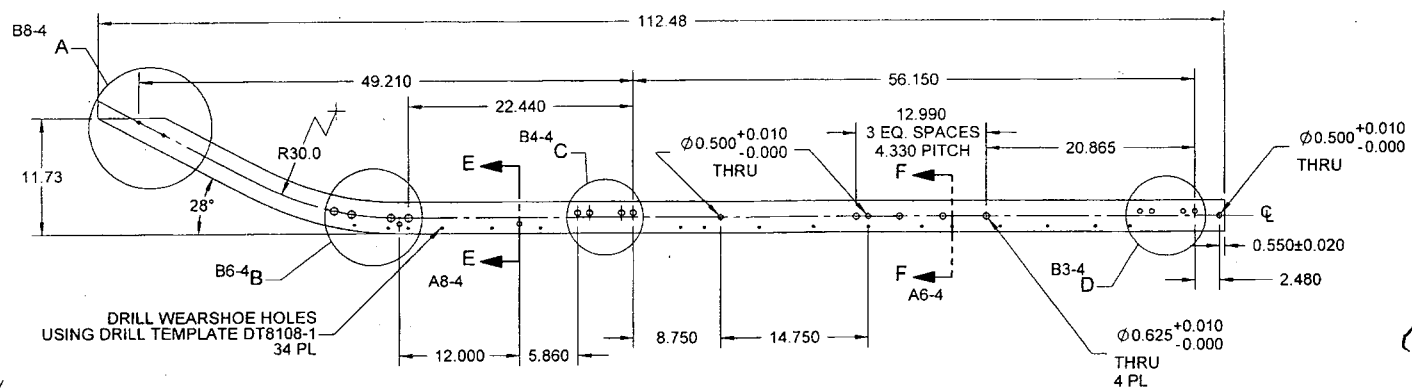
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

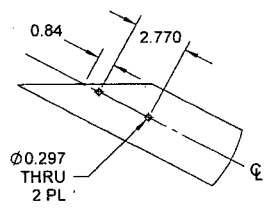
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

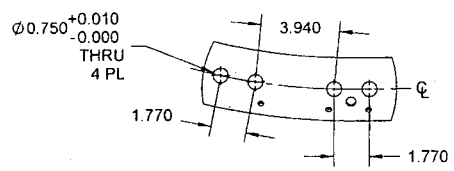
NOTE: Date & initial all entries



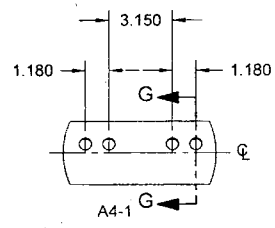
D2750-1 LH SKIDTUBE



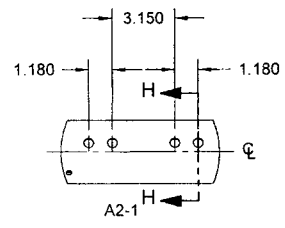
DETAIL A
SCALE 2X



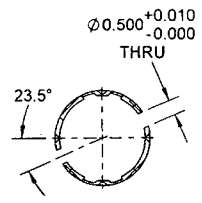
DETAIL B
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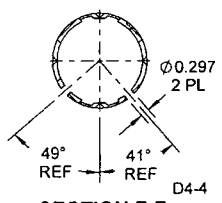
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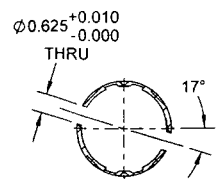
DETAIL D
SCALE 2X



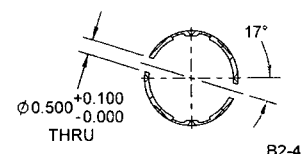
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

RELEASED

DESIGN	JPB	DART AEROSPACE USA, INC.	
DRAWN	JPB	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2750	SHEET 4 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

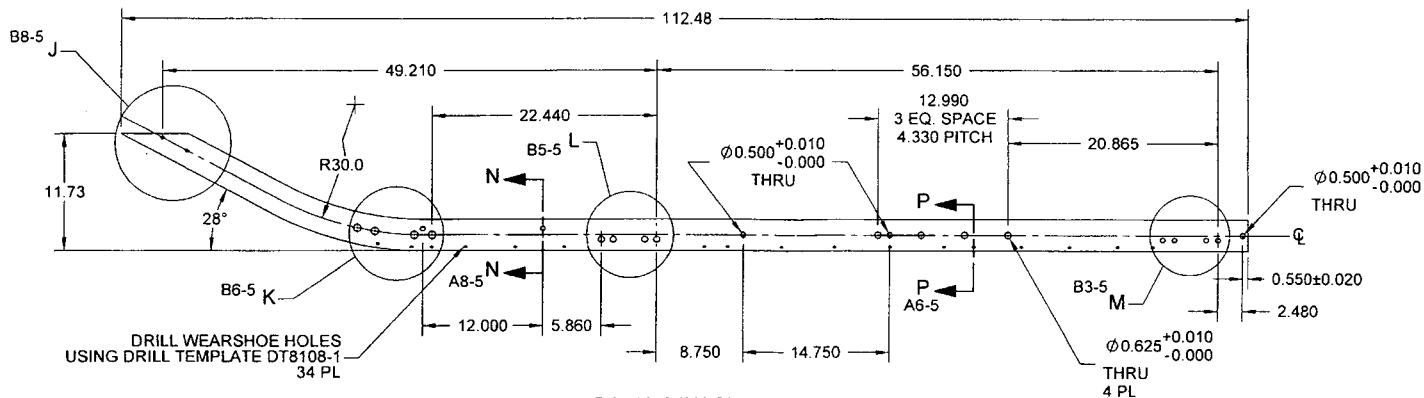
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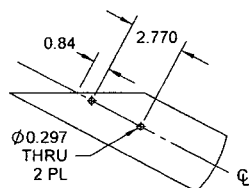
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

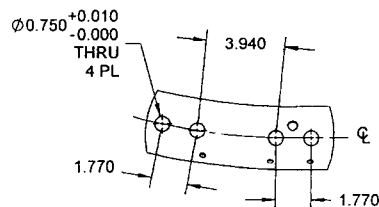
72373



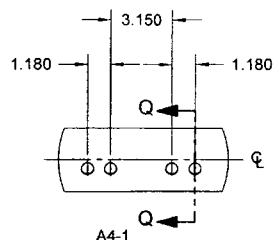
D2750-2 RH SKIDTUBE



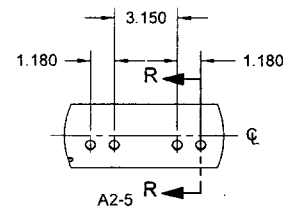
DETAIL J
SCALE 2X



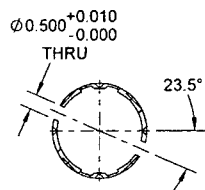
DETAIL K
SCALE 2X



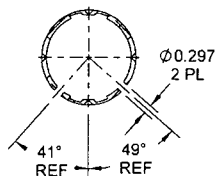
DETAIL L
SCALE 2X



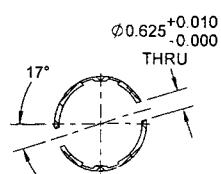
DETAIL M
SCALE 2X



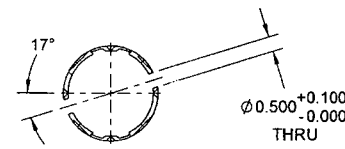
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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DESIGN		DART AEROSPACE USA, INC.
DRAWN		PORT HADLOCK, WA
CHECKED		DRAWING NO. D2750
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APPROVED		SHEET 5 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

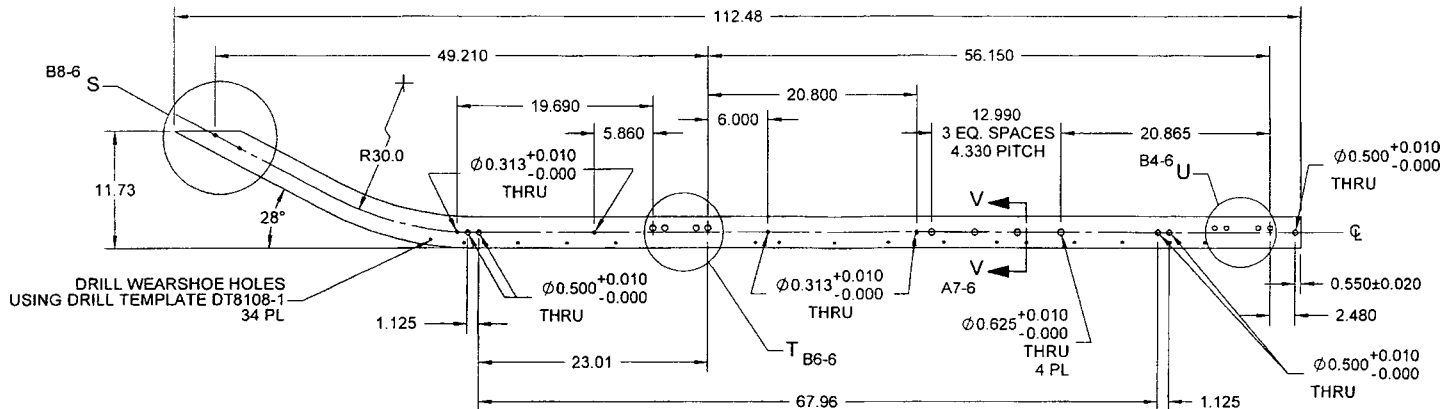
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

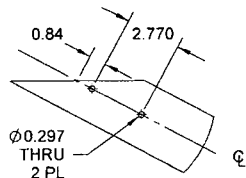
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

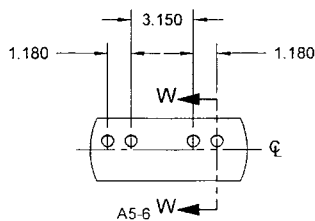
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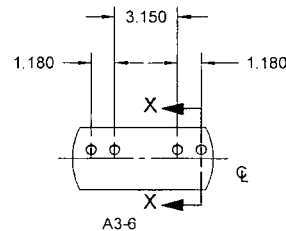
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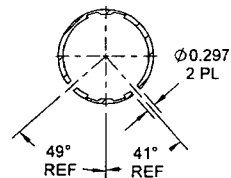
DETAIL S
D8-6
SCALE 2X



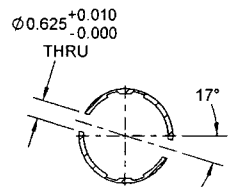
DETAIL T
C5-6
SCALE 2X



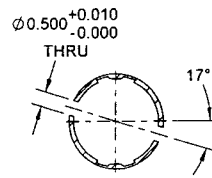
DETAIL X
D3-6
SCALE 2X



SECTION V-V
C4-6
SCALE 3X, 17 PL



SECTION W-W
B6-6
SCALE 3X, 4 PL



SECTION X-X
B4-6
SCALE 3X, 4 PL

RELEASED
08-22-11

DESIGN		DART AEROSPACE USA, INC.	
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MFG. APPR.		D2750	SHEET 6 OF 11
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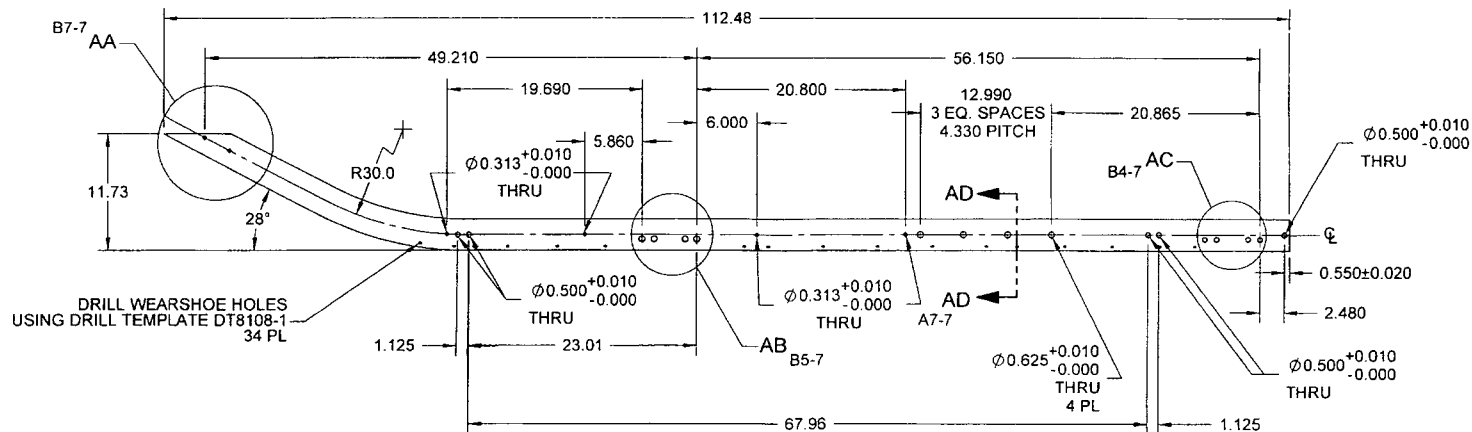
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

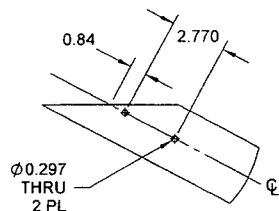
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

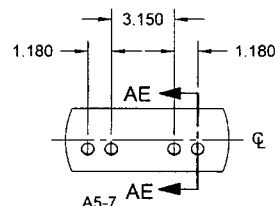
NOTE: Date & initial all entries



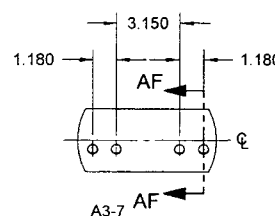
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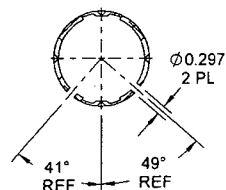
DETAIL AA
SCALE 2X



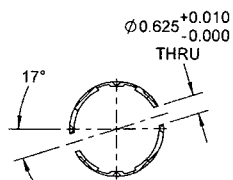
DETAIL AB
SCALE 2X



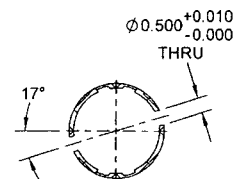
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

RELEASED
08-09-22-117

DESIGN	PA	DART AEROSPACE USA, INC.	
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MFG. APPR.	PA	D2750	SHEET 7 OF 11
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

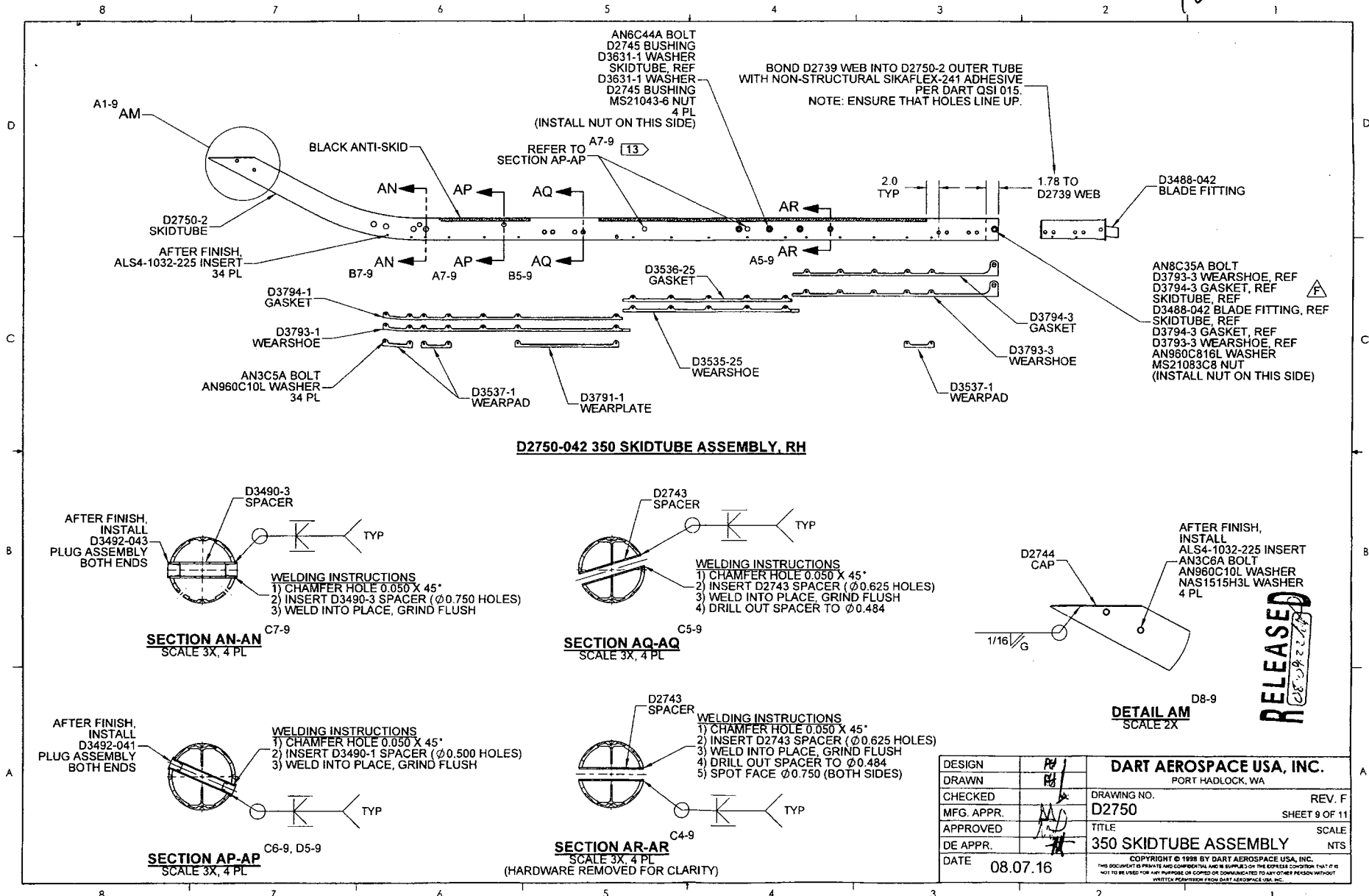
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

72373



DESIGN	PH	DART AEROSPACE USA, INC.	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED		DRAWING NO. D2750	REV. F
MFG. APPR.		TITLE	SHEET 9 OF 11
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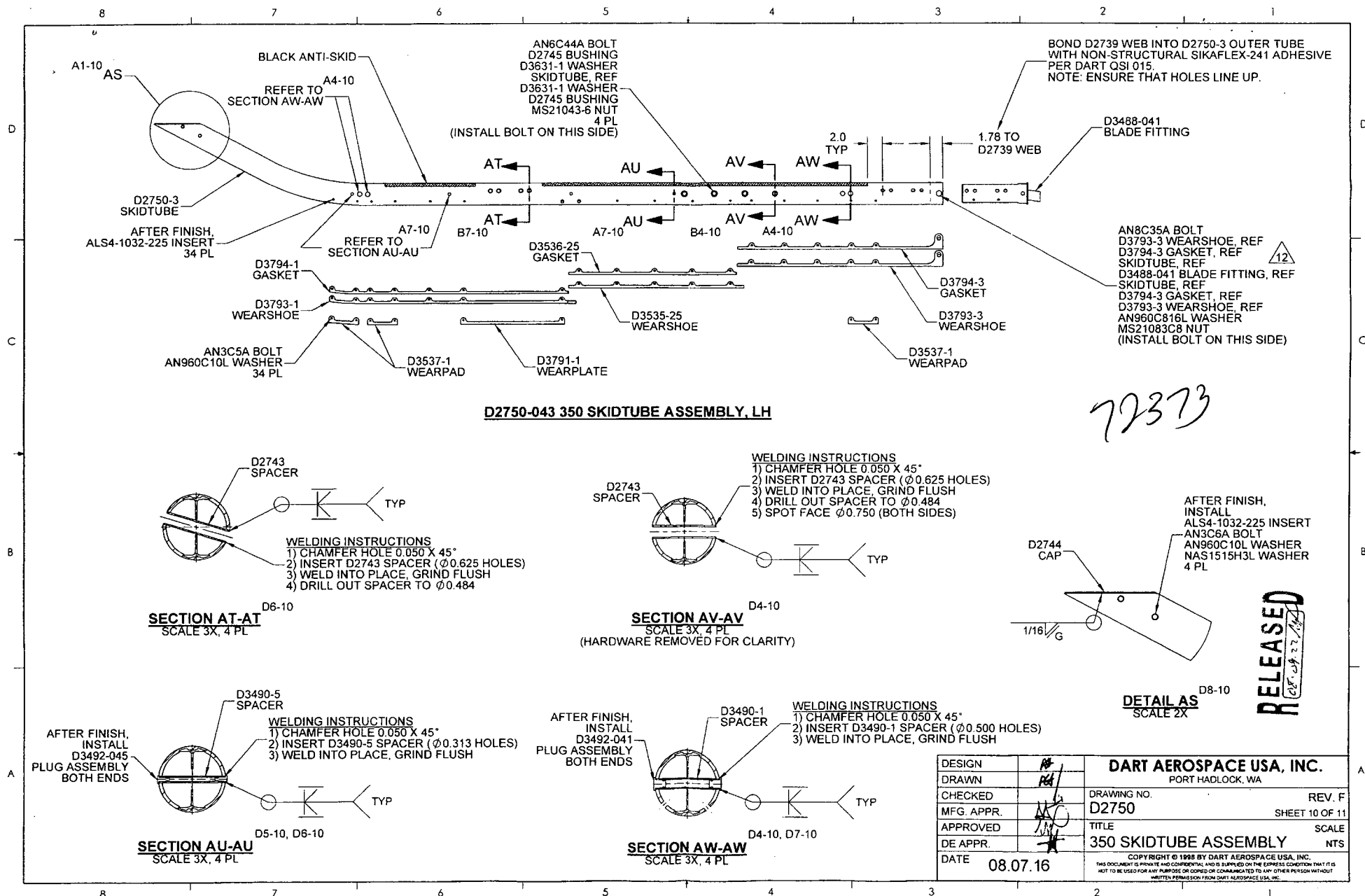
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



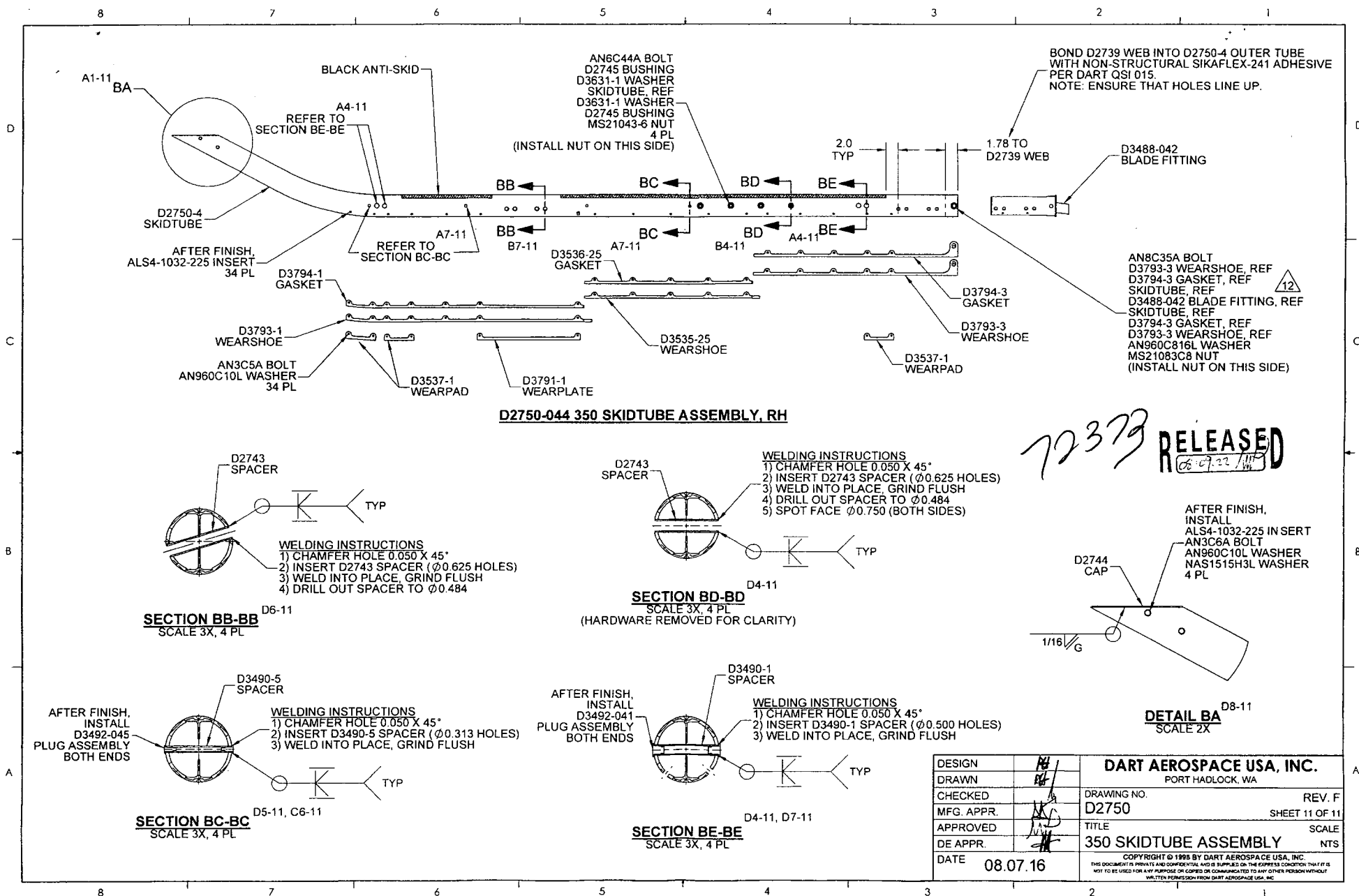
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W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 260

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: B.69707
Part number: D350 - 636 - 011
Description: 350
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Pat Dunn Date of Test Coupon 11-07-08
Welder Barclay Elliott Date of Test Coupon 11-07-08

The above named individual is qualified in accordance with AWS D17.1.2001 to weld